

Parking Lot System

Designed a parking lot using Python with features like park car, leave, get car no by color etc

Table of contents

- Parking Lot System
 - Table of contents
 - Description
 - Technologies
 - Setup
 - Usage
 - Output

Description

This repository gives an overview of how we can design a basic parking lot in Python. It creates parking lot with given number of slots.

ParkingLot.py script defines the following functions -

1. **create_parking_lot n** - Given n number of slots, create a parking lot
2. **park car_regno car_color** - Parks a vehicle with given registration number and color in the nearest empty slot possible. If there are no more empty slots available, it shows a message "Sorry, parking lot is full".
3. **status** - Prints the slot number, registration number and color of the parked vehicles.
4. **leave x** - Removes vehicle from slot number x
5. There are few query functions to retrieve slot number from registration number of car, get registration numbers of cars with particular color etc.

Vehicle.py is a separate class where we can define the type of vehicles that can be parked. As of now, it only contains class Car

ParkMyCar.py is the file we use to run this project it takes the input from user and processes it using ParkingLot.py

Technologies used

- Python: 3.8.5
- Flake8(for linting)

Setup

To run this project:

1. Clone this repo.
2. Install Python
3. Install flake8 library:
 - pip install flake8
 - goto root directory where ParkMyCar.py file is present.
 - Run python -m flake8 command and check for any errors:
4. run ParkMyCar.py
 - \$ python ParkMyCar.py
 - you have to choose 1 option for input method either command line or filename
5. In order to use file option you should have file in your root director

Usage

Note:- Please make sure you follow the commands properly

- Format to be followed
- 1. To create parking lot use 'create_parking_lot '
- example:- create_parking_lot 6

- 2. To park car in parking lot use 'park '
- example: park KA-01-HH-1234 white

- 3. To leave car from parking lot use 'leave'
- example: leave 4

- 4. To get status of parking lot use 'status'
- example: status

- 5. To get registration for car with color from parking lot use 'registration_numbers_for_cars_with_colour '
- example: registration_numbers_for_cars_with_colour white

- 6. To get slot for car with color from parking lot use 'slot_numbers_for_cars_with_colour '
- example: slot_numbers_for_cars_with_colour white

- 7. To get slot for car with registration from parking lot use 'slot_number_for_registration_number '
- example: slot_number_for_registration_number KA-01-HH-3141

Output

```
$ C:/Python27/python.exe "c:/Users/SUNIL JOSHI/Desktop/CVRAMAN/project-sunil-joshi-au13/ParkMyCar.py"
('=====', 'Welcome to Parking Lot system', '=====')
```

Choose an Option for Input Method:

1. Command Line as Input

2. Filename as Input

Enter your choice: 2

Enter the Filename

file_testcase.txt

Created a parking lot with 6 slots

Allocated slot number: 1

Allocated slot number: 2

Allocated slot number: 3

Allocated slot number: 4

Allocated slot number: 5

Allocated slot number: 6

Slot number 4 is free

Slot No.	Registration No.	Colour
1	KA-01-HH-1234	White
2	KA-01-HH-9999	White
3	KA-01-BB-0001	Black
5	KA-01-HH-2701	Blue
6	KA-01-HH-3141	Black

Allocated slot number: 4

Sorry, parking lot is full

KA-01-HH-1234, KA-01-HH-9999, KA-01-P-333

1, 2, 4

Not found

Not found